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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/676,875	09/29/2000	Bruce Randall Cook	ECB-0004	3306

7590

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EXAMINER

GRIFFIN, WALTER DEAN

ART UNIT

PAPER NUMBER

1764

DATE MAILED: 12/03/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/676,875

Applicant(s)

COOK ET AL.

Examiner

Walter D. Griffin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

The abstract of the disclosure is objected to because it does not include the steps of the process. Correction is required. See MPEP § 608.01(b).

### ***Claim Objections***

Claim 4 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the

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claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 4 does not further limit claim 1 because claim 1 states that “said stripping gas is hydrogen”. This language indicates that the stripping gas is 100% hydrogen. Therefore, the limitation of claim 4 that the stripping gas comprises no more than ½ mole percent hydrogen sulfide and no more than 50 mole % hydrogen does not further limit claim 1.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-14 are indefinite because it is unclear which catalyst is used when hydrogen is the stripping gas. In claim 1, lines 9-11, the catalyst can be one of two types when hydrogen is the stripping gas and in line 12, the catalyst is one type when hydrogen is the stripping gas. Therefore, the type of catalyst used is unclear.

Claim 7 contains the trademark/trade name “SCANfining”. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or

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trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe a particular process and, accordingly, the identification/description is indefinite.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4 and 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harandi (5,554,275).

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The Harandi reference discloses a process for desulfurizing a hydrocarbon feed by passing a liquid hydrocarbon into a stripper having a bed of hydrodesulfurization catalyst particles and contacting the liquid with the catalyst bed while passing a stripping gas (i.e., hydrogen) into the stripper. The catalyst may be a Group VI and VIII metal catalyst such as cobalt-molybdenum on a support such as alumina. This catalyst would necessarily be sulfided through its use with a sulfur-containing hydrocarbon feed. The feed may include C<sub>5</sub>+ hydrocarbons. See col. 1, lines 7-62, col. 2, lines 19-24, and col. 3, lines 12-37.

The Harandi reference does not disclose the presence of mercaptans in the hydrocarbon feed, does not disclose the stripping gas composition of claim 4, and does not disclose a concurrent system.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Harandi by utilizing a feed that contains mercaptans in the concentrations claimed because mercaptans fall within the general class of organic sulfur compounds disclosed by Harandi and therefore would be expected to be effectively converted in the disclosed process.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Harandi by utilizing a stripping gas having the composition as in claim 4 because any concentration of hydrogen would be expected to promote the hydrodesulfurization reactions.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Harandi by utilizing a concurrent system

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because as long as there is contact between the hydrogen, feed, and catalyst, regardless of the direction of contacting, an effective process would be expected to result.

Claims 5-7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harandi (5,554,275) as applied to claim 1 above, and further in view of Jossens et al. (6,228,254).

As discussed above, the Harandi reference does not disclose the use of a hydrodesulfurized feed or the step of hydrodesulfurizing a hydrocarbon to produce the feed.

The Jossens reference discloses a mild hydrotreatment that results in a hydrotreated stream that still contains mercaptans. These mercaptans are then removed by a further treatment. See col. 1, line 65 through col. 5, line 15.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Harandi by hydrotreating a hydrocarbon to produce the feed as suggested by Jossens because the initial mild hydrotreating of Jossens retains olefin content while increasing mercaptan content.

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

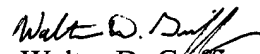
The prior art not relied upon discloses stripping of a hydrodesulfurization product stream.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter D. Griffin whose telephone number is 703-305-3774. The examiner can normally be reached on Monday-Friday 6:30 to 4:00 with alternate Fridays off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marian Knode can be reached on 703-308-4311. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-5408 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

  
Walter D. Griffin  
Primary Examiner  
Art Unit 1764

WG  
November 27, 2001